

**AMENDMENTS TO THE CLAIMS**

1-16. (Canceled)

17. (Previously Presented) A method for analyzing a network link in a computer network, comprising:

- generating a predetermined signal on the network link;
- detecting a response of the link to the predetermined signal;
- analyzing the response for an influence of a termination of the link, in which the step of analyzing comprises:
  - applying a short circuit threshold to the response of the link,
  - applying an open circuit threshold to the response of the link, and
  - searching the response of the link for a matched terminator;
- locating the termination of the link in response to the application of the short circuit threshold, open circuit threshold, and search for the matched terminator; and
- determining a time delay between the generation of the predetermined signal and the located termination.

18. (Previously Presented) The method described in Claim 17, wherein the step of searching for the response of the matched terminator comprises determining a change in the influence of skin effects on the response resulting from the predetermined signal reaching the terminator.

19. (Previously Presented) The method described in Claim 17, wherein generating the predetermined signal comprises generating a current step function on the network link.

20. (Previously Presented) The method described in Claim 17, wherein the step of searching for the response of the matched terminator comprises detecting an inflection point in induced voltage on the network link.

21. (Previously Presented) The method described in Claim 17, further comprising calculating the length of the network link to the terminator in response to the time delay.

22. (Previously Presented) The method described in Claim 17, wherein the step of analyzing further comprises low pass filtering the response of the link and then detecting an inflection point in filtered response of the network link.

23. (Previously Presented) The method described in Claim 17, wherein the step of analyzing further comprises low pass filtering the response of the link and then applying the thresholds to the filtered response.

24. (Previously Presented) The method described in Claim 17, wherein the detection of the response of the link to the predetermined signal occurs at a non-terminator location on the network link.

25. (Previously Presented) The method described in Claim 17, wherein the generation of the predetermined signal on the network link occurs at a non-terminator location on the network link.

26. (Previously Presented) The method described in Claim 17, wherein the detection of the response of the link to the predetermined signal occurs on an operational computer network.

27. (Previously Presented) The method described in Claim 17, wherein the generation of the predetermined signal on the network link occurs on an operational computer network.

28. (Previously Presented) A network termination analysis device for a digital data network, comprising:

a function generator that injects a predetermined signal onto cabling of the network;

a digitizer that digitally samples the network's response to the predetermined signal; and

a system processor that downloads data from the digitizer to analyze the network's response to the predetermined signal and identify a time between the generation of the predetermined signal and a change in the network's response due to a termination of the network, in which the analysis comprises applying a short circuit threshold to the response, applying an open circuit threshold to the response, and searching the response for a matched terminator.

29. (Previously Presented) A device as described in Claim 28, wherein the function generator injects a step function.

30. (Previously Presented) The device described in Claim 28, wherein the system processor calculates at least one length of the cabling based on the time between the generation of the predetermined signal and a change in the network's response exceeding any one of the short or open circuit thresholds or the detection of the matched terminator.

31. (Previously Presented) The device described in Claim 30, further comprising a monitor for displaying at least one calculated length of the cabling.

32. (Previously Presented) The device described in Claim 31, wherein the display further indicates a maximum protocol-determined length for the cabling.

33. (Previously Presented) The device described in Claim 28, wherein the function generator injects the predetermined signal onto cabling of the network at a non-terminator location.

34. (Previously Presented) The device described in Claim 28, wherein the digitizer samples the network's response to the predetermined signal at a non-terminator location on the cabling.

35. (Previously Presented) The device described in Claim 28, wherein the function generator injects the predetermined signal onto cabling of an operational network.

36. (Previously Presented) The device described in Claim 28, wherein the digitizer samples the response to the predetermined signal of an operational network.

37. (Currently Amended) A method for analyzing a network link in a computer network, comprising:

generating a predetermined signal on the network link;

detecting a response of the link to the predetermined signal, said response including a resistance response;

filtering the response of the link by removing a contribution of a real component of the resistance response of the link; and

displaying the filtered data to assist in the identification of impedance problems on the link.

38. (Previously Presented) The method described in Claim 37, wherein the detection of the response of the link to the predetermined signal occurs at a non-terminator location on the network link.

39. (Previously Presented) The method described in Claim 37, wherein the generation of the predetermined signal on the network link occurs at a non-terminator location on the network link.

40. (Previously Presented) The method described in Claim 37, wherein the detection of the response of the link to the predetermined signal occurs on an operational computer network.

41. (Previously Presented) The method described in Claim 37, wherein the generation of the predetermined signal on the network link occurs on an operational computer network.